## REMARKS

***Status of the Claims***

The present application was filed with claims 1 to 114, and in the outstanding office action all of the claims stand rejected as directed to non-statutory subject matter. By this amendment, Applicants cancel all of the previously pending claims and add new claims 115 to 136.

***Rejection of Claims 1-114 Under 35 U.S.C. 101***

The Examiner states that claims 1-114 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. Specifically, the Examiner states that:

> Claims 1-114 recite mathematical algorithm without concrete and tangible result directed to a practical application.

Applicants disagree with the Examiner's conclusion. However, in an effort to expedite the prosecution of this case, and with no prejudice to Applicants' ability to refile these or similar claims in related applications, Applicants cancel all pending claims (1 to 114) and thereby obviate this rejection.

***New Claims 115-136***

Applicants submit new claims 115 to 136 by this Amendment. Independent claim 115 is similar to previously pending claim 1, but adds features from the claims previously dependent from claim 1, and uses slightly less generic terminology than claim 1. Claim 115 recites a method for determining a preferred segmentation for at least first and second sets of data. The method includes the inputting of the first and second sets of data, along with association values that can be used to relate one or more elements of the first data set with one or more elements of the second data set. Recited steps B, C, and D modify the segmentation of each data set, calculate group association values based on the association values, and calculate an optimization metric based on the group association values. Where the desired level of optimization is not achieved, steps B, C, and D are repeated. Where the desired level of optimization is achieved, the newly optimized segmentation for the first and second data sets is outputted.

Section 2106 of the Manual of Patent Examining Procedure provides:

> The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

The outputting of optimized segmentations for two related data sets is a tangible and concrete result (two sets of data have been input and grouped or regrouped in an optimized way before being outputted – now leading to two grouped data sets having an optimized segmentation). Practical applications for this technology are numerous. Dependent claims 116 to 122 further recite the deployment of the method of claim 115 to one specific exemplary practical application – associating customers with products. This application is described in the application at pages 17 to 18 and 30 to 34. Looking, for example, at claim 120, the first and second data sets represent customers and products, and the association value represent revenues. In this embodiment, raw transaction data (a customer, the products purchased by the customer, and money paid by the customer for the products) is input, and an optimized segmentation of customer and product groupings is output. Segmenting customers and products into groups based upon the optimization of revenue and/or profit is a practical application that marketing professionals would readily understand.

Significantly, the method of claim 115 modifies the segmentation of both the first and second data sets (in the dependent claims, the groupings of both customers and products both change), thereby simultaneously optimizing the segmentation along both axes of a cross-matrix defined by the first and second data sets. The method also allows specifically for aggregation (and refinement; see claims 123 to 125) as part of the modification of the data sets. This simultaneous optimization and aggregation within one or more of the data sets is unknown in the

art and provides significant advantages in the ability of the invention to provided optimized segmentations, and to do so in a computationally efficient manner.

Section 2106 of the Manual of Patent Examining Procedure further provides:

> It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the initial review of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, Office personnel should state all reasons and bases for rejecting claims in the first Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever practicable, Office personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application.
>
> Prior to focusing on specific statutory requirements, Office personnel must begin examination by determining what, precisely, the applicant has invented and is seeking to patent, and how the claims relate to and define that invention. (As the courts have repeatedly reminded the Office: "The goal is to answer the question 'What did applicants invent?' " *In re Abele*, 684 F.2d 902, 907, 214 USPQ 682, 687. Accord, e.g., *Arrhythmia Research Tech. v. Corazonix Corp.*, 958 F.2d 1053, 1059, 22 USPQ2d 1033, 1038 (Fed. Cir. 1992).) Consequently, Office personnel will no longer begin examination by determining if a claim recites a "mathematical algorithm." Rather they will review the complete specification, including the detailed description of the invention, any specific embodiments that have been disclosed, the claims and any specific, substantial, and credible utilities that have been asserted for the invention.

Applicants, while disagreeing with the Examiner's conclusion that the claims "recite [a] mathematical algorithm without [a] concrete and tangible result directed to a practical application," have amended the claims and reduced their number in an effort to clarify the scope of the claimed invention. No other rejections or objections have been made; in particular, no material prior art has been cited. Accordingly, Applicants believe that claims 115 to 136 are in condition for allowance.

## CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. If the Examiner believes that further communication would expedite the prosecution of this application, Applicants encourage the Examiner to contact the undersigned attorney.

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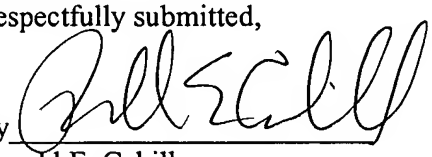
Respectfully submitted,

By 

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